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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/721,564	11/25/2003	Karl Barth	P03,0465	5805

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SCHIFF HARDIN & WAITE
Patent Department
6600 Sears Tower
233 South Wacker Drive
Chicago, IL 60606

EXAMINER

AZARIAN, SEYED H

ART UNIT	PAPER NUMBER
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2624

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/20/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/721,564

Applicant(s)

BARTH, KARL

Examiner

Seyed Azarian

Art Unit

2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 11-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 12 and 13 is/are rejected.
- 7) ☒ Claim(s) 6-9 and 11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 November 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2. Claims 1, 2 and 12-13, are rejected under 35 U.S.C. 102(e) as being anticipated by Gupta (WO 02/093494 A2).

Regarding claim 1, Gupta discloses a method for surface contouring of a three-dimensional image of an object, comprising the steps of (see abstract, modeling a three dimensional target object, plurality of cross-sectional images and determination is made of an intersection contour);

placing a first set of planes through the three-dimensional image (page 3, summary, plurality of cross-sectional images in order to provide a representative corresponding three-dimensional models);

determining contours that are imaged in each of the planes of the first set of planes and that are associated with a surface contour of the three-dimensional image (column 4, last paragraph positioned model with the individual image planes of the volume to create a series of contours);

and combining the contours determined in each plane of the first set of planes into a surface grid associated with the surface contour of the three-dimensional image (page 5, second paragraph the model is automatically fit to those points, the initial model is intersected with each of the image planes in the image volume. The result is a series of contours (inner and outer) in each of the cross-sectional images of the volume; framework includes a method for combining three-dimensional models with two-dimensional).

Regarding claim 2, Gupta discloses a method as claimed in claim 1 wherein the planes of the first set of planes intersect in a first straight line (column 5, lines 1-17, the initial model is intersected with each of the image planes in the image volume).

Regarding claim 12, Gupta discloses a method as claimed in claim 1 comprising acquiring the three-dimensional image with a medical technology device, as representation of a part of a living organism as said subject (page 5, first paragraph, refer to organ).

With regard to claim 13, the arguments analogous to those presented above for claims 1 and 12 are respectively applicable to claim 13.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-5, are rejected under 35 U.S.C. 103(a) as being unpatentable over Gupta (WO 02/093494 A2) in view of Fenster et al (U.S. patent 5,454,371).

However regarding claim 3, Gupta does not explicitly state its corresponding "wherein that the first straight line proceeds substantially through the geometric center of the three-dimensional image. On the other hand Fenster in the same field of medical diagnostics teaches (column 17, lines 28-43, the point of rotation for three-dimensional image is constrained to be the geometric center of the initial model (display screen is identified by its associated Cartesian coordinates)).

Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Gupta invention according to the teaching of Fenster because it generate a three dimensional image and allowing a user to manipulate a displaying of three-dimensional image, enhance imaging and better accuracy.

With regard to claims 4 and 5, the arguments analogous to those presented above for claims 1 and 3 are respectively applicable to claims 4 and 5.

Allowable Subject Matter

4. Claims 6-9 and 11 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowable subject matter.

With respect to claim 6, closest prior art of (Gupta and Fenster) do not disclose or suggest, among other things, " specifying the image contents of each plane of the first set of planes in Cartesian coordinates and, for each plane, determining the contours in that plane by, applying a coordinate transformation to polar coordinates approximately with regard to the geometric center of the three-dimensional image, and thereby unwinding the contour, and determining the contour in the transformed plane". Additionally with respect to claim 9, the closest prior art of (Gupta and Fenster) also do not disclose or suggest, among other things, "placing a second set of planes through the three-dimensional image with the planes of the second set of planes intersecting in a second straight line, orienting said second straight line perpendicularly to said first straight line, determining the contours that are imaged in each of the planes of the second set of planes and that are associated with the surface contour of the three-dimensional image, and together with the contours determined in each plane of the first set of planes, merging the contours determined in each plane of the second set of planes into the surface grid associated with the surface contour of the three-dimensional image".

Other prior art cited

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

(U.S. patent 5,871,018) to computer-assisted surgical method.

(U.S. patent 7,141,812) to Appleby et al is cited for devices, method and system involving castings.

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(U.S. patent 7,174,202) to Bladen et al is cited medical navigation apparatus.

(U.S. patent 6,522,777) to Paulsen et al is cited combined 3D-and 2D scanning machine-vision system and method.

Contact Information

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Seyed Azarian whose telephone number is (571) 272-7443. The examiner can normally be reached on Monday through Thursday from 6:00 a.m. to 7:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Bella, can be reached at (571) 272-7778. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application information Retrieval (PAIR) system. Status information for published application may be obtained from either Private PAIR or Public PAIR.

Status information about the PAIR system, see [http:// pair-direct.uspto.gov](http://pair-direct.uspto.gov). Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Seyed Azarian
Patent Examiner
Group Art Unit 2624
February 7, 2007

